

# Automation 18 - MCQ/MRQ (KC)

### Copyright note

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# Introduction

We have a way forward in the world of Quark



# BPP-9541: ACCA - QnA

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## MCQ/MRQ - Regression test file

### 1 General output overview



#### Illustration 1: Output for MCQs

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This is the question scenario.

##### Required

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth

##### Solution

The correct answer is: Warfare

This is the question debrief.

Athena represented the disciplined, strategic side of war, in contrast to her brother Ares, the patron of violence, bloodlust, and slaughter. Athena was believed to only support those fighting for a just cause and was thought to view war primarily as a means to resolve conflict.

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#### Illustration 2: Output for MRQs

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- 1 This is the first question scenario.

##### Required

This is the first question requirement. Which of the following were among Athena's major symbols?

- ☐ Olive trees
- ☐ Owls
- ☐ Eagles
- ☐ Snakes

- 2 This is the second question requirement. Which of the following were among Artemis' major symbols?

- ☐ Hunting knives
- ☐ Lyre

- ☐ Moon
- ☐ Raven

### Solution

1 The correct answers are:

- Olive trees
- Owls
- Snakes

This is the question debrief. Eagles were a symbol of Hebe, goddess of youth.

2 The correct answers are:

- Hunting knives
- Moon

Response Option	Explanation
Lyre	The lyre was a symbol of Apollo, Artemis' twin brother.
Raven	The raven was a symbol of Apollo, Artemis' twin brother.

This is the question debrief.

## 2 Test scenarios

### 2.1 Illustrations: QnAs with only MCQs/MRQs



#### Illustration 3: 1 question (scenario)

This is the question scenario. Athena was the goddess of wisdom, handicraft and what other area?

#### Required

- ☐ Sun
- ☐ Warfare
- ☐ Youth

#### Solution

The correct answer is: Warfare

This is the question debrief.



#### Illustration 4: 1 question (requirement, response debriefs)

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare

- ☐ Youth

**Solution**

The correct answer is: Warfare

Response Option	Explanation
Sun	Apollo was the Greek god of the sun.
Warfare	Athena was the Greek goddess of warfare.
Youth	Hebe was the Greek goddess of youth.

This is the question debrief.

---



### Illustration 5: 1 question, 1 sub-question

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This is the question scenario.

**Required**

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun  
☐ Warfare  
☐ Youth

(a) This is the sub-question scenario.

**Required**

This is the sub-question requirement. Which of the following were among Hermes' major symbols?

- ☐ Flaming torch  
☐ Winged sandals  
☐ Tortoise

**Solution**

The correct answer is: Warfare

(a) The correct answers are:

- Winged sandals
- Tortoise

This is the sub-question debrief.

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### Illustration 6: 1 question, 2 sub-questions

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This is the question scenario.

**Required**

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun  
☐ Warfare

- ☐ Youth
- (a) This is the first sub-question requirement. Which of the following were among Hermes' major symbols?
  - ☐ Flaming torch
  - ☐ Winged sandals
  - ☐ Tortoise
- (b) This is the second sub-question scenario.

**Required**

This is the second sub-question requirement. Which of the following were among Artemis' major symbols?

- ☐ Lyre
- ☐ Raven
- ☐ Moon

**Solution**

The correct answer is: Warfare

This is the question debrief.

- (a) The correct answers are:

- Winged sandals
- Tortoise

This is the first sub-question debrief.

- (b) The correct answer is: Moon



### Illustration 7: 1 question, 2 sub-questions (response debriefs)

---

This is the question scenario.

**Required**

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth
- (a) This is the first sub-question requirement. Which of the following were among Hermes' major symbols?
  - ☐ Flaming torch
  - ☐ Winged sandals
  - ☐ Tortoise
- (b) This is the second sub-question requirement. Which of the following were among Artemis' major symbols?
  - ☐ Lyre
  - ☐ Raven
  - ☐ Moon

**Solution**

The correct answer is: Warfare



Response Option	Explanation
Sun	Apollo was the Greek god of the sun.
Youth	Hebe was the Greek goddess of youth.

This is the question debrief.

(a) The correct answers are:

- Winged sandals
- Tortoise

Response Option	Explanation
Flaming torch	This was a symbol of Ares, the Greek god of war.
Winged sandals	Hermes is often portrayed wearing these.

This is the first sub-question debrief.

(b) The correct answer is: Moon



### Illustration 8: 2 questions

1 This is the first question scenario. Which of the following were among Athena's major symbols?

**Required**

- ☐ Olive trees
- ☐ Owls
- ☐ Eagles
- ☐ Snakes

2 This is the second question requirement. Which of the following were among Artemis' major symbols?

- ☐ Hunting knives
- ☐ Lyre
- ☐ Moon
- ☐ Raven

**Solution**

1 The correct answers are:

- Olive trees
- Owls
- Snakes

This is the question debrief. Eagles were a symbol of Hebe, goddess of youth.

2 The correct answers are:

- Hunting knives
- Moon



### Illustration 9: 2 questions, 2 sub-questions (response debriefs)

- 1 This is the first question scenario. Which of the following were among Athena's major symbols?

**Required**

- ☐ Olive trees
- ☐ Owls
- ☐ Eagles
- ☐ Snakes

- (a) This is the first sub-question requirement. Who was the Greek god of the sun?

- ☐ Apollo
- ☐ Ares

- (b) This is the second sub-question requirement. Who was the Greek goddess of the hunt?

- ☐ Athena
- ☐ Artemis

- 2 This is the second question requirement. Which of the following were among Artemis' major symbols?

- ☐ Hunting knives
- ☐ Lyre
- ☐ Moon
- ☐ Raven

**Solution**

- 1 The correct answers are:

- Olive trees
- Owls
- Snakes

This is the question debrief. Eagles were a symbol of Hebe, goddess of youth.

- (a) The correct answer is: Apollo

Response Option	Explanation
Apollo	Apollo was also the god of poetry and healing.
Ares	Ares was the Greek god of war.

This is the first sub-question debrief.

- (b) The correct answer is: Artemis

- 2 The correct answers are:

- Hunting knives
- Moon

Response Option	Explanation
Lyre	The lyre was a symbol of Apollo, Artemis' twin brother.

Response Option	Explanation
Raven	The raven was a symbol of Apollo, Artemis' twin brother.

## 2.2 Illustrations: QnAs with a mix of MCQs/MRQs and non-MCQs/MRQs



### Illustration 10: 1 question (MCQ), 1 question (non-MCQ)

- 1 This is the first question scenario.

#### Required

This is the first question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth

- 2 This is the second question scenario.

#### Required

This is the second question requirement.

#### Solution

- 1 The correct answer is: Warfare  
This is the first question debrief.
- 2 This is the second question debrief.



### Illustration 11: 1 question (MCQ), 1 sub-question (MCQ), 1 question (non-MCQ)

- 1 This is the first question scenario. Which of the following were among Athena's major symbols?

#### Required

- ☐ Olive trees
- ☐ Owls
- ☐ Eagles
- ☐ Snakes

- (a) This is the sub-question requirement. Who was the Greek goddess of the hunt?

- ☐ Athena
- ☐ Artemis

- 2 This is the second question requirement.

#### Solution

- 1 The correct answers are:
  - Olive trees

- Owls
- Snakes

This is the question debrief.

(a) The correct answer is: Artemis

This is the sub-question debrief.

2 This is the second question debrief.

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## 2.3 Activities: QnAs with only MCQs/MRQs



### Activity 1: 1 question (scenario)

---

This is the question scenario. Athena was the goddess of wisdom, handicraft and what other area?

**Required**

- ☐ Sun
  - ☐ Warfare
  - ☐ Youth
- 



### Activity 2: 1 question (requirement, response debriefs)

---

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
  - ☐ Warfare
  - ☐ Youth
- 



### Activity 3: 1 question, 1 sub-question

---

This is the question scenario.

**Required**

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth

(a) This is the sub-question scenario.

**Required**

This is the sub-question requirement. Which of the following were among Hermes' major symbols?

- ☐ Flaming torch
- ☐ Winged sandals

☐ Tortoise

---



#### Activity 4: 1 question, 2 sub-questions

---

This is the question scenario.

##### Required

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth
- (a) This is the first sub-question requirement. Which of the following were among Hermes' major symbols?
  - ☐ Flaming torch
  - ☐ Winged sandals
  - ☐ Tortoise
- (b) This is the second sub-question scenario.

##### Required

This is the second sub-question requirement. Which of the following were among Artemis' major symbols?

- ☐ Lyre
  - ☐ Raven
  - ☐ Moon
- 



#### Activity 5: 1 question, 2 sub-questions (response debriefs)

---

This is the question scenario.

##### Required

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
  - ☐ Warfare
  - ☐ Youth
  - (a) This is the first sub-question requirement. Which of the following were among Hermes' major symbols?
    - ☐ Flaming torch
    - ☐ Winged sandals
    - ☐ Tortoise
  - (b) This is the second sub-question requirement. Which of the following were among Artemis' major symbols?
    - ☐ Lyre
    - ☐ Raven
    - ☐ Moon
-



### Activity 6: 2 questions

---

- 1 This is the first question scenario. Which of the following were among Athena's major symbols?

**Required**

- ☐ Olive trees
- ☐ Owls
- ☐ Eagles
- ☐ Snakes

- 2 This is the second question requirement. Which of the following were among Artemis' major symbols?

- ☐ Hunting knives
  - ☐ Lyre
  - ☐ Moon
  - ☐ Raven
- 



### Activity 7: 2 questions, 2 sub-questions (response debriefs)

---

- 1 This is the first question scenario. Which of the following were among Athena's major symbols?

**Required**

- ☐ Olive trees
- ☐ Owls
- ☐ Eagles
- ☐ Snakes

- (a) This is the first sub-question requirement. Who was the Greek god of the sun?

- ☐ Apollo
- ☐ Ares

- (b) This is the second sub-question requirement. Who was the Greek goddess of the hunt?

- ☐ Athena
- ☐ Artemis

- 2 This is the second question requirement. Which of the following were among Artemis' major symbols?

- ☐ Hunting knives
  - ☐ Lyre
  - ☐ Moon
  - ☐ Raven
- 

## 2.4 Activities: QnAs with a mix of MCQs/MRQs and non-MCQs/MRQs



### Activity 8: 1 question (MCQ), 1 question (non-MCQ)

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- 1 This is the first question scenario.

**Required**

This is the first question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth

- 2 This is the second question scenario.

**Required**

This is the second question requirement.

---

**Activity 9: 1 question (MCQ), 1 sub-question (MCQ), 1 question (non-MCQ)**

---

- 1 This is the first question scenario. Which of the following were among Athena's major symbols?

**Required**

- ☐ Olive trees
- ☐ Owls
- ☐ Eagles
- ☐ Snakes

- (a) This is the sub-question requirement. Who was the Greek goddess of the hunt?

- ☐ Athena
- ☐ Artemis

- 2 This is the second question requirement.
-

## Activity answers

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### Activity 1: 1 question (scenario)

The correct answer is: Warfare

This is the question debrief.

### Activity 2: 1 question (requirement, response debriefs)

The correct answer is: Warfare

Response Option	Explanation
Sun	Apollo was the Greek god of the sun.
Warfare	Athena was the Greek goddess of warfare.
Youth	Hebe was the Greek goddess of youth.

This is the question debrief.

### Activity 3: 1 question, 1 sub-question

The correct answer is: Warfare

This is the question debrief.

(a) The correct answers are:

- Winged sandals
- Tortoise

This is the sub-question debrief.

### Activity 4: 1 question, 2 sub-questions

The correct answer is: Warfare

(a) The correct answers are:

- Winged sandals
- Tortoise

This is the first sub-question debrief.

(b) The correct answer is: Moon

### Activity 5: 1 question, 2 sub-questions (response debriefs)

The correct answer is: Warfare

Response Option	Explanation
Sun	Apollo was the Greek god of the sun.
Youth	Hebe was the Greek goddess of youth.

This is the question debrief.

(a) The correct answers are:

- Winged sandals
- Tortoise



Response Option	Explanation
Flaming torch	This was a symbol of Ares, the Greek god of war.
Winged sandals	Hermes is often portrayed wearing these.

This is the first sub-question debrief.

(b) The correct answer is: Moon

### Activity 6: 2 questions

1 The correct answers are:

- Olive trees
- Owls
- Snakes

This is the question debrief. Eagles were a symbol of Hebe, goddess of youth.

2 The correct answers are:

- Hunting knives
- Moon

### Activity 7: 2 questions, 2 sub-questions (response debriefs)

1 The correct answers are:

- Olive trees
- Owls
- Snakes

This is the question debrief. Eagles were a symbol of Hebe, goddess of youth.

(a) The correct answer is: Apollo

Response Option	Explanation
Apollo	Apollo was also the god of poetry and healing.
Ares	Ares was the Greek god of war.

This is the first sub-question debrief.

(b) The correct answer is: Artemis

2 The correct answers are:

- Hunting knives
- Moon

Response Option	Explanation
Lyre	The lyre was a symbol of Apollo, Artemis' twin brother.
Raven	The raven was a symbol of Apollo, Artemis' twin brother.

### Activity 8: 1 question (MCQ), 1 question (non-MCQ)

1 The correct answer is: Warfare

This is the first question debrief.

2 This is the second question debrief.

**Activity 9: 1 question (MCQ), 1 sub-question (MCQ), 1 question (non-MCQ)**

1 The correct answers are:

- Olive trees
- Owls
- Snakes

This is the question debrief.

(a) The correct answer is: Artemis

This is the sub-question debrief.

2 This is the second question debrief.

## Test your learning

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- 1 1 question (scenario). This is the question scenario. Athena was the goddess of wisdom, handicraft and what other area?

**Required**

- ☐ Sun
- ☐ Warfare
- ☐ Youth

- 2 1 question (requirement, response debriefs). This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth

- 3 1 question, 1 sub-question. This is the question scenario.

**Required**

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth

- (i) This is the sub-question scenario.

**Required**

This is the sub-question requirement. Which of the following were among Hermes' major symbols?

- ☐ Flaming torch
- ☐ Winged sandals
- ☐ Tortoise

- 4 1 question, 2 sub-questions. This is the question scenario.

**Required**

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth

- (i) This is the first sub-question requirement. Which of the following were among Hermes' major symbols?

- ☐ Flaming torch
- ☐ Winged sandals
- ☐ Tortoise

- (ii) This is the second sub-question scenario.

**Required**

This is the second sub-question requirement. Which of the following were among Artemis' major symbols?

- ☐ Lyre
- ☐ Raven
- ☐ Moon

5 1 question, 2 sub-questions (response debriefs). This is the question scenario.

**Required**

This is the question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
- ☐ Warfare
- ☐ Youth

(i) This is the first sub-question requirement. Which of the following were among Hermes' major symbols?

- ☐ Flaming torch
- ☐ Winged sandals
- ☐ Tortoise

(ii) This is the second sub-question requirement. Which of the following were among Artemis' major symbols?

- ☐ Lyre
- ☐ Raven
- ☐ Moon

6 (a) 2 questions. This is the first question scenario. Which of the following were among Athena's major symbols?

**Required**

- ☐ Olive trees
- ☐ Owls
- ☐ Eagles
- ☐ Snakes

(b) This is the second question requirement. Which of the following were among Artemis' major symbols?

- ☐ Hunting knives
- ☐ Lyre
- ☐ Moon
- ☐ Raven

7 (a) 2 questions, 2 sub-questions (response debriefs). This is the first question scenario. Which of the following were among Athena's major symbols?

**Required**

- ☐ Olive trees
- ☐ Owls
- ☐ Eagles

- ☐ Snakes
  - (i) This is the first sub-question requirement. Who was the Greek god of the sun?
    - ☐ Apollo
    - ☐ Ares
  - (ii) This is the second sub-question requirement. Who was the Greek goddess of the hunt?
    - ☐ Athena
    - ☐ Artemis
  - (b) This is the second question requirement. Which of the following were among Artemis' major symbols?
    - ☐ Hunting knives
    - ☐ Lyre
    - ☐ Moon
    - ☐ Raven
- 8 (a) 1 question (MCQ), 1 question (non-MCQ). This is the first question scenario.

**Required**

This is the first question requirement. Athena was the goddess of wisdom, handicraft and what other area?

- ☐ Sun
  - ☐ Warfare
  - ☐ Youth
- (b) This is the second question scenario.

**Required**


This is the second question requirement.

- 9 (a) 1 question (MCQ), 1 sub-question (MCQ), 1 question (non-MCQ). This is the first question scenario. Which of the following were among Athena's major symbols?


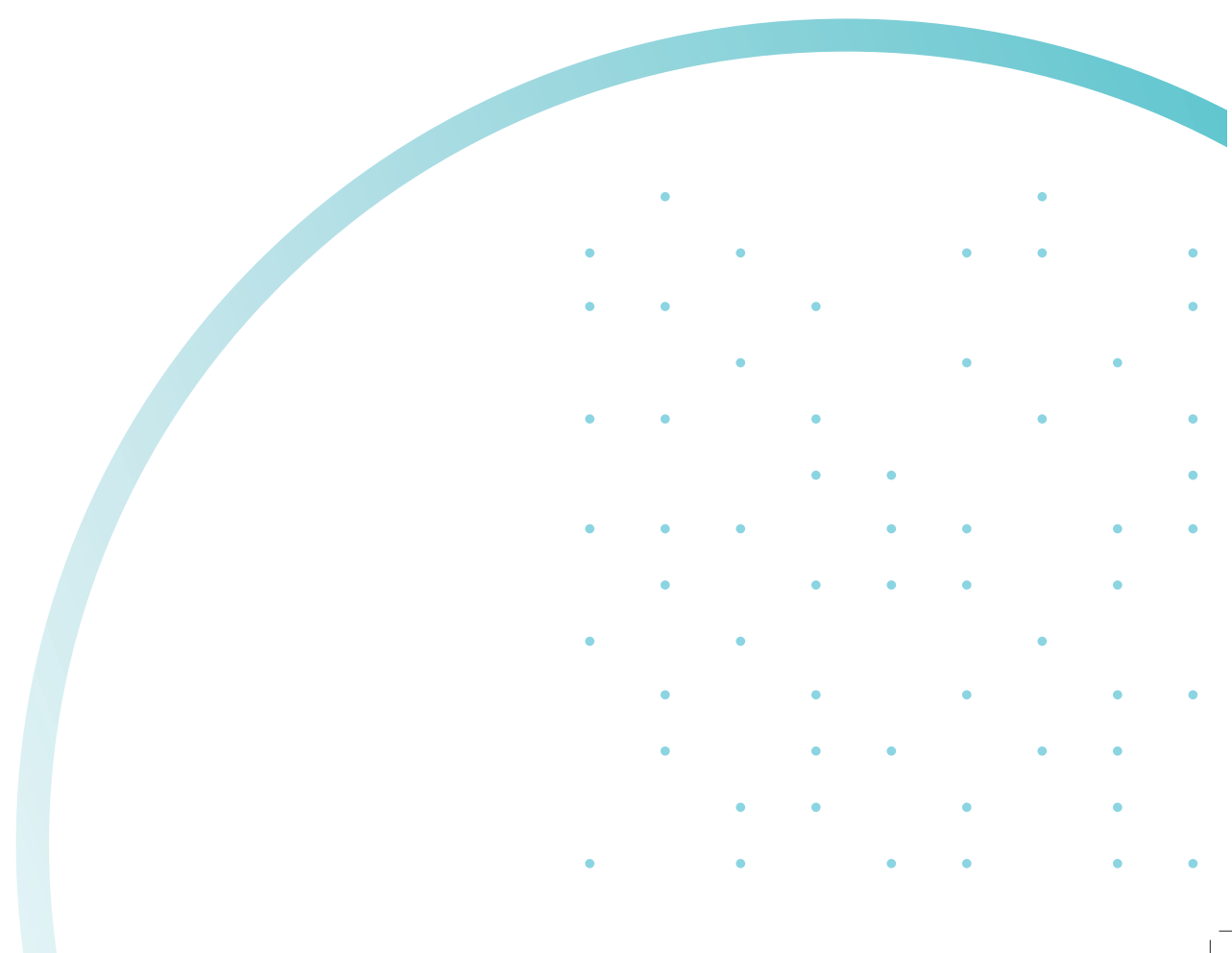
**Required**

- ☐ Olive trees
  - ☐ Owls
  - ☐ Eagles
  - ☐ Snakes
- (i) This is the sub-question requirement. Who was the Greek goddess of the hunt?
  - ☐ Athena
  - ☐ Artemis
- (b) This is the second question requirement.





# **Appendix 1: Formulae, ratios and mathematical tables**







## Appendices

### Appendix A: Formulae and ratios that you need to learn

Profitability ratios:

$$\text{ROCE} = \frac{\text{Profit from operations (before interest and tax)}}{\text{Capital employed}}$$

Debt ratios include:

$$\text{Gearing} = \frac{\text{Value of debt}}{\text{Value of equity (or debt + equity)}}$$

$$\text{Interest cover} = \frac{\text{Profit from operations}}{\text{Interest}}$$

Liquidity ratios:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Shareholder investor ratios include:

$$\text{Dividend yield} = \frac{\text{Dividend per share}}{\text{Share price}} \times 100$$

$$\text{Earnings per share (EPS)} = \frac{\text{Profits after tax - preference dividend}}{\text{Number of ordinary shares}}$$

$$\text{Price to earnings ratio (P/E)} = \frac{\text{Share price}}{\text{EPS}}$$

#### Working capital ratios

Operating cycle = inventory days + receivable days – payables days

Inventory days = inventory/cost of sales × 365

Receivables days = trade receivables/(credit) sales × 365

Payables days = trade payables/(credit) purchases × 365

Sales to net working capital ratio = sales/net working capital (excl cash)

Cost of capital formulae:

$$K_d = \frac{I(1 - t)}{P_0}$$

$$K_p = \frac{d}{p}$$

Other useful formulae to learn:

$$IRR = a\% + \left[ \frac{NPV_a}{NPV_a - NPV_b} \times (b\% - a\%) \right]$$

$$\text{Total shareholder return} = \frac{\text{dividend gain} + \text{capital}}{\text{share price at start year}}$$

$$EAC = \frac{\text{NPV of costs}}{\text{Annuity factor for life of the project}}$$

$$\text{Profitability index} = \frac{\text{Present value of cash inflows (or NPV of the project)}}{\text{Present value of cash outflows}}$$

## Appendix B: Mathematical tables

### Present Value Table

## Annuity Table

### Formula Sheet

#### Economic Order Quantity

$$= \sqrt{\frac{2C_oD}{C_H}}$$

#### Miller-Orr Model

$$\text{Return point} = \text{Lower limit} + \left(\frac{1}{3} \times \text{spread}\right)$$

$$\text{Spread} = 3 \left[ \frac{\frac{3}{4} \times \text{transaction cost} \times \text{variance of cash flows}}{\text{Interest rate}} \right]^{\frac{1}{3}}$$

#### The Capital Asset Pricing Model

$$E(n) = R_f + \beta_i(E(r_m) - R_f)$$

#### The asset beta formula

$$\beta_a = \left[ \frac{V_e}{(V_e + V_d(1-T))} \beta_e \right] + \left[ \frac{V_d(1-T)}{(V_e + V_d(1-T))} \beta_d \right]$$

#### The Growth Model

$$P_0 = \frac{D_0(1+g)}{(r_e - g)} \quad r_e = \frac{D_0(1+g)}{P_0} + g$$

#### Gordon's Growth Approximation

$$g = br$$

#### The weighted average cost of capital

$$WACC = \left[ \frac{V_e}{V_e + V_d} \right] k_e + \left[ \frac{V_d}{V_e + V_d} \right] k_d(1 - T)$$

#### The Fisher formula

$$(1 + i) = (1 + r)(1 + h)$$

#### Purchasing Power Parity and Interest Rate Parity

$$S_1 = S_0 \times \frac{(1 + h_c)}{(1 + h_b)} \quad F_0 = S_0 \times \frac{(1 + i_c)}{(1 + i_b)}$$



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